



History:

Received: December 17, 2019
Accepted: December 27, 2019
First Published: December 29, 2019
Collection year: 2019
Confirmation of publication: Published

Identifiers and Pagination:

Year: 2019
Volume: 9
First Page: 01
Last Page: 03
Publisher ID: 19257430-9-1
doi:
[10.21065/19257430.9.1](http://dx.doi.org/10.21065/19257430.9.1)

Corresponding author:

Marwa M. Elmaghrabi, Permanent researcher, Stem Cells and Tissue Culture Labs, Alexandria Faculty of Medicine. (ISO 9001:2015 lead Auditor, IRCA), Alexandria, Egypt. E.: m_elmaghrabi12@alexmed.edu.eg | marvenmomo@yahoo.com

Citation:

Marwa M. Elmaghrabi. Transmission of SARS-CoV-2 can be controlled by adopting standard safety procedures and using personal protective equipment (PPE). Can J App Sci. 2019. Vol. 9. p. 1-3

Expert opinion

TRANSMISSION OF SARS-CoV-2 CAN BE CONTROLLED BY ADOPTING STANDARD SAFETY PROCEDURES AND USING PERSONAL PROTECTIVE EQUIPMENT (PPE).

Marwa M. Elmaghrabi

Permanent researcher, Stem Cells and Tissue Culture Labs, Alexandria Faculty of Medicine. (ISO 9001:2015 lead Auditor, IRCA), Alexandria, Egypt.

A pneumonia or respiratory illness of unknown source was detected in China during the late 2019,[2] that was identified afterward as a positive-sense single-stranded RNA genomic material called SARS-CoV-2. World Health Organization (WHO) declared that as nCoV- 19 or COVID-19. The person to person transmission of the virus is rapid by close contact and droplets produced when infected patients talk, sneeze or cough. [1][3]The virus may also be transferred by touching the contaminated surfaces followed by contacting the nose, mouth or eyes. [4]

The researchers also determined that virus can survive or stay alive on surfaces for three days. Whereas, the incubation period or time span between the exposure or getting SARS-CoV-2 and development of symptoms is about 14 days. Moreover, the nasopharyngeal sample is collected by the swab technique from the SARS-CoV-2 suspected patients, [10] that is then confirmed by running the specimen into the Reverse Transcription Polymerase Chain Reaction (rRT-PCR) machine. [5] Additional, up till now no rational treatment is available for successful and complete treatment disease, and no vaccination is synthesized yet for the prevention of the COVID-19.

However certain precautionary measure may be adopted to prevent the infection include hand washing frequently specially after touching any surfaces with clean water and soap for at least 20 seconds followed by disinfection containing 70% alcohol, [6] both are the first line defense against the nCoV-19. Additionally, the social or physical distancing (of minimum 2 meters), [7] covering nose during sneezes and coughs (or use the inner elbow if no tissue is available) are the most important components of safety against COVID-19. The health care worker must wear all necessary Personnel Protective Equipment (PPE) all the time during their employment or professional work, especially the highly protective face mask (N95) should be used instead of the regular surgical mask, that may not work effectively against the infection.

Moreover, the health care workers are highly recommended to discard the used PPE safely without touching its outer surfaces after completion of the tasks or work. [8] Putting the disposables into the infectious waste is advised to avoid all potential health hazards. Additionally, taking the accessories off is advised to avoid any potential risk of getting infected especially the hand wearing jewelries and artificial ornaments may catch the infectious genomic material and become potential source of infection.

Funding:

The authors received no direct funding for this research.

Competing Interests:

The authors may accept the competing conflict of interests.

Additional information is available at the end of the article.

The floors, walls and surfaces should be disinfected regularly with suitable disinfectant (diluted Chlorine 0.05%). [9][11] The standard procedure should be enforced and audited regularly by qualified health care professionals. Additionally, proper preventive measures should be adopted during shopping, handling grocery and interacting with mandatory personals. The vegetables and fruits should be wash under clean water for 30 seconds, then soaked into the vinegar for a few minutes before drying, storage and peeling off the external covers. The virus can stay alive under the freezer temperature for around two years, so disinfection the items should be single directional after washing and before freezing.

It is also recommended when back to home to take off all the outer clothing and put into the laundry bags. The personal belongings, handbags, keys, cell phone cover etc. should be placed in a box at entrance. Avoid any kind of contact to any person, object or surfaces until washing and sanitizing hands properly or preferably taking a shower. In case of suspecting illness, staying home in isolation is strongly advised followed by proper home medical care. The frequent hands washing, wear personal protective equipment (specially highly protective face mask) are recommended to avoid the SARS CoV-2. The sharing of household items, toiletries and daily utensils should also be discouraged. The testing all family members should be closely monitored for possible diagnosed of SARS CoV-2. Particularly, the breathing disorder should not be ignored and should be addressed through professional medical emergency responders immediately.

Conclusion

The implementation of infection control regulation and respecting the precaution of social distance potentially help to control the replication of SARS CoV-19. The balance diet, intake of plenty of hot drinks, reducing the sugar intake, regular exercise and avoiding alcohol and smoking may help to develop resistance and get sufficient immunity to defeat the SARS CoV-19.

References

1. Wang J, Wang D, Chen GC, Tao XW, Zeng LK. Zhongguo Dang Dai Er Ke Za Zhi. SARS-CoV-2 infection with gastrointestinal symptoms as the first manifestation in a neonate. 2020 Mar;22(3):211-214. PMID: 32204755 Chinese.
2. ChenN,ZhouM,DongX,QuJ,GongF,HanY,et al. Epidemiological and clinical characteristics of 99 cases of 2019 novel coronavirus pneumonia in Wuhan, China: a descriptive study. Lancet. 2020;395:507–13. doi:10.1016/S0140- 6736(20)30211-7.
3. Dong XC, Li JM, Bai JY, Liu ZQ, Zhou PH, Gao L, et al. The epidemiological characteristics of an outbreak of 2019 novel coronavirus diseases (COVID-19) in China. Zhonghua liu xing bing xue za zhi = Zhonghua liuxingbingxue zazhi. 2020 2/18/medline;41(2):145-51.
4. Han Y, Yang H. The transmission and diagnosis of 2019 novel coronavirus infection disease (COVID-19): A Chinese perspective. Journal of Medical Virology.n/a(n/a).
5. Bustin SA Mueller R. Real-time reverse transcription PCR (qRT-PCR) and

- its potential use in clinical diagnosis. Clin Sci. 2005; 109: 365-379.
6. WHO guidelines on hand hygiene in health care settings. Geneva: World Health Organization; 2009
(https://apps.who.int/iris/bitstream/handle/10665/44102/9789241597906_eng.pdf?sequence=1&isAllowed=y, accessed 3 March 2020).
 7. Abubakar I, Gautret P, Brunette GW, Blumberg L, Johnson D, Pomeroy G, et al. Global perspectives for prevention of infectious diseases associated with mass gatherings. The Lancet Infectious Diseases. 2012;12(1):66-74.
 8. How to put on and take off personal protective equipment. Geneva: World Health Organization; 2008 (<https://apps.who.int/iris/handle/10665/70066>, accessed 3 March 2020).
 9. Chemical disinfectants: guideline for disinfection and sterilization in healthcare facilities (2008). In: CDC/Infection Control [website]. Atlanta: US Centers for Disease Control and Prevention; 2019.
 10. Zhou J, Fang L, Yang Z, Xu S, Lv M, Sun Z, Chen J, Wang D, Gao J, Xiao S. Identification of novel proteolytically inactive mutations in coronavirus 3C-like protease using a combined approach. FASEB J. 2019 Dec;33(12):14575-14587. doi: 10.1096/fj.201901624RR. Epub 2019 Nov 5. PMID: 31690127
 11. Qualls N, Levitt A, Kanade N, et al. Community mitigation guidelines to prevent pandemic influenza — United States, 2017. MMWR Recomm Rep 2017;66(No. RR-1):1–34. Available from: <http://dx.doi.org/10.15585/mmwr.rr6601a1>



© 2016 The Author(s). This open access article is distributed under a Creative Commons Attribution (CC-BY) 4.0 license.

You are free to:

Share — copy and redistribute the material in any medium or format

Adapt — remix, transform, and build upon the material for any non-commercial purpose.

The licensor cannot revoke these freedoms as long as you follow the license terms. Under the following terms:

Attribution — You must give appropriate credit, provide a link to the license, and indicate if changes were made.

You may do so in any reasonable manner, but not in any way that suggests the licensor endorses you or your use.

No additional restrictions

You may not apply legal terms or technological measures that legally restrict others from doing anything the license permits